

4-7 2-3 @ 2-3 DOK
H SYSTEM

Approved For Release 2000/05/03 : CIA-RDP33-02415A000800260001-3

GENERAL DESCRIPTION
High altitude framing camera that provides high resolution coverage of selected targets. The required resolution is achieved through use of a high-quality, long-focal-length lens and is maintained by rate-gyro-controlled stabilization, temperature-pressure automatic focus control, reactionless focal plane shutter and moving platen forward motion compensation (FMC).

LEADING PARTICULARS

Lens

Aperture: f/5

Focal Length: 66"

Shutter

Type: Focal Plane.

Speed: 1/50 to 1/1250 sec.

Filter W-12 (Minus Blue) and W-21.

Format 4.5" x 4.5"

Frame Coverage + 20

Mode II (58% overlap)

N A D I R .8 NM.

60° Oblique 3.3 NM.

Mode III (85% overlap)

N A D I R .8 NM.

60° Oblique 3.3 NM.

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MARK IV HAND CONTROL

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The Hand Control is used to operate the driftsight, all cameras, and other mission equipment. Driftsight aiming angle and magnification on/off power for the driftsight, cameras, and other mission equipment; camera mode of operation; FMC; and shutter velocity are all controlled or selected on the hand control (H configuration only, shutter and FMC).

The driftsight is aimed by moving the control stick. Switches and knobs on the hand control front panel provide all other control and selection functions. A, B, C, D lights and a frame counter indicate operation of cameras. A dial indicates the oblique aiming angle for the driftsight. The Hand Control can be used for aiming the "H" configuration when the auxiliary control panel is installed in the vehicle.

AUXILIARY CONTROL PANEL

GENERAL DESCRIPTION

Auxiliary Control Panel is used only with the "H" configuration. A switch on the auxiliary panel selects either the auxiliary panel or the hand control to aim the camera. A light indicates whether the auxiliary panel or the hand control has been selected. Two dials indicate right or left aiming angle when the auxiliary panel is used.

H SYSTEM (CONTINUED)

Approved For Release 2000/05/03 : CIA-RDP33-02415A000800260001-3

Mode II:	220 minutes and/or 1505 NM.
Mode III:	73 minutes and/or 499 NM.
Mode IV:	95 minutes and/or 649 NM.
Mode V:	95 minutes and/or 649 NM.
<u>Flight Weight</u>	666 lbs.
<u>Inflight Resolution</u>	6" Vertical.

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IRIS II SYSTEM

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The Panoramic Camera is a light weight, compact, photographic system specifically designed for day light acquisition of high quality, high altitude photography. The camera provides continuous fully automatic convergent (stereoscopic) or vertical ground coverage with (FMC) Forward Motion Compensation and automatic exposure control (AEC).

LEADING PARTICULARS

Lens

Aperture: F/3.5

Focal Length: 24"

The entire optical bar (entire optical system is assembled and aligned as an integral structure) is rotated continuously about an axis approximately in line with the vehicle roll axis. The image of the terrain is exposed through a scanning slit on to the film, providing panoramic coverage.

Shutter Variable Width Scanning Slit.

Filters Selectable.

Format 58.64" x 4.5"

Exposure Control Automatic or Fixed Slit
Selectable.

Lateral Coverage 64 NM at + 20.

FMC Nodding Optical Bar.

Programming Pilot Select Mode Switch.

Mono (Vertical) Selectable on the ground.

Stereo (Fwd and Aft

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IRIS II SYSTEM (CONTINUED)

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Mono:	20%
Stereo:	10%
<u>Cycle Rate</u>	
Mono:	14.7 sec.
Stereo:	8.7 sec.
<u>Capacity</u>	10,500 feet of 5" film.
<u>Range</u>	Time and/or NM at + 20.
Mono:	8.5 hrs and/or 3700 NM.
Stereo:	5.3 hrs and/or 2300 NM.
<u>Flight Weight</u>	395 lbs.
<u>Inflight Resolution</u>	12" N A D I R

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T-35 TRACKER

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The T-35 Panoramic Camera is primarily used for quick readout of flight path. Evaluation of weather and flight line coverage is accomplished within two to three hours from landing, this is accomplished in the field.

LEADING PARTICULARS

Lens

Aperture: F/2.3

Focal Length: 2"

Shutter

Type: Focal Plane Drum.

Speed, effective: 1/100 to 1/180

Filter W-12 Minus Blue, W-25A Red, W-1A clear.

Format 1" x 6.18"

Coverage Horizon to Horizon.

Scan Rate ½ sec for 180° scan.

Programming Pilot "on" switch.

Overlap 20% to 80% adjustable.

Cycle Rate Normal 35 sec adjustable.

Capacity 700' 35MM film.

Range 35 sec interval 10 hours of target coverage.

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Inflight Resolution 8 - 12 feet at + 20.

DELTA III SYSTEM

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GENERAL DESCRIPTION

High altitude twin panoramic cameras that provides high resolution target coverage. This configuration is unique in that it provides stereo coverage of the target. In addition to the stereo coverage, since there are twin cameras, two different types of film can be used (Color vs Black & White), this combination gives us maximum intelligence from our target coverage. Completely automatic in operation, the unit employs a self-contained control system providing three modes of operation, selectable in flight.

LEADING PARTICULARS

Lens

Aperture: F/3.5

Focal Length: 24"

Shutter

Type: Rotation of lens with slit.

Speed, effective: Adjustable.

Filters Selectable.

Format 2.25" x 29.3"

Lateral Coverage 16 NM at + 20.

FMC Adjustable.

Programming Mode Selection Switch.

Overlap 10%

Cycle Rate 3 Fixed Settings (7, 8, 9 seconds).

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DELTA III (CONTINUED)

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Stereo Angle

28 degrees.

Capacity

7800 feet 70MM film per unit.

Range

7800 feet at + 20.

Mode I:

473 minutes and/or 2900 NM.

Mode II:

415 minutes and/or 2900 NM.

Mode III:

362 minutes and/or 2900 NM.

5000 feet at + 20.

Mode I:

303 minutes and/or 1855 NM.

Mode II:

266 minutes and/or 1855 NM.

Mode III:

232 minutes and/or 1855 NM.

Flight Weight

432 lbs.

Inflight Resolution

12" N A D I R.

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B-2 SYSTEM

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GENERAL DESCRIPTION

High resolution, large format, general reconnaissance framing camera designed to provide detailed information over an extremely large area. Completely automatic in operation, the unit employs a self-contained control system providing five modes of operation, selectable in flight.

LEADING PARTICULARS

Lens

Aperture: f/10
Focal Length: 36"

Shutter

Type: Intralens drawer type.
Speed, effective: 1/125 to 1/475 in half stop increments.

Filters

Yellow W-12 (Minus Blue).

Lens Positions

Degrees from Vertical

3R	73.5° Right
2R	49.0° Right
1R	24.5° Right
V	0.0°
1L	24.5° Left
2L	49.0° Left
3L	73.5° Left

Approved For Release 2000/05/03 : CIA-RDP33-02415A000800260001-3

B-2 SYSTEM (CONTINUED)

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Format

18 x 18

Lateral Coverage

Altitude + 20

Mode I: 563 NM (Useful Photography - 154 NM).

Mode II: 19 NM.

Mode III: 284 NM (Useful Photography - 77 NM).

Mode IV: 284 NM (Useful Photography - 77 NM).

Mode V: 45 NM.

Forward Motion Compensation (FMC)

Type: Rocking Optics.

Rate (selectable): Milliradians/second

Mode I: 8.0 to 23.0

Mode II: 7.0 to 16.0

Mode V: 7.5 to 18.0

Programming Pilot Select Mode Switch.

Overlap 50% to 60% Selectable.

Cycle Rate 3.5 minimum.

Capacity 13,000 ft (6,500 ft of 9½" on each of two spools).

Range 50% overlap.

Mode I 5 hrs 42 mins and/or 2230 NM.

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Mode II, III, IV:

9 hrs 36 mins and/or 3755 NM.

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Flight Weight

455 lbs.

Inflight Resolution

12" to 18"

A-2 SYSTEM

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GENERAL DESCRIPTION

Automatic Reconnaissance System consisting of three cameras in a tri-vertical configuration. Used primarily for Red Dot testing (EK).

LEADING PARTICULARS

Lens

Aperture: f/8

Focal Length: 24"

Shutter

Type: Intralens drawer type.

Speed, effective: 1/250 sec to 1/600 sec in half stop increments.

Filters

Yellow W-12 (Minus Blue) Red W-25A.

Format

9" x 18"

Lateral Coverage

Vertical Cameras: 8 NM at +15

Forward Motion Compensation (FMC)

Type: Rocking Mount

Rate (adj): .010 - .012 radians/sec

Programming

Three Cameras trip simultaneously.

Overlap

Minimum 50%

Cycle Rate

3 sec/cycle minimum.

Approved For Release 2000/05/03 : CIA-RDP33-02415A000800260001-3

A-2 SYSTEM (CONTINUED)

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<u>Capacity</u>	1800 ft thin base, $\frac{1}{2}$ wide film (each camera).
<u>Range</u>	Time 4.8 hrs and/or 2,040 NM (50% overlap).
<u>Flight Weight</u>	400 lbs.
<u>Inflight Resolution</u>	18" to 24"

EVP PACKAGE

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The HG-495B Inflight Test Data Recorder Assembly is designed as an instrumentation package to record test data during airborne missions. Environmental and performance data of the vehicle and equipment under evaluation may be monitored and recorded. The recorder assembly has provisions for handling vibration, temperatures, pressure, 3 axes angular rates, dew point temperature, and other miscellaneous analog signal inputs.

LEADING PARTICULARS

<u>Record Capability</u>	14 Tracks
<u>Record Time</u>	2 hrs
<u>Tape Speed</u>	3 3/4" per sec.
<u>Tape Characteristics</u>	1" x 2300' 1 Mil Thickness.

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Mode IV (62% overlap)

N A D I R 1.4 NM.

60° 5.2 NM.

Mode V (24% overlap)

N A D I R 2.6 NM.

60° Oblique 10.6 MN.

Forward Motion Compensation (FMC)

Type: Moving Platen

Range: 7 to 13 MR/sec.

Programming

Pilots hand control (MIV) selects mode of operation, shutter velocity, and FMC rate and, for standard aiming, controls camera driftsight angle. For off-set aiming, the hand control is used to aim the driftsight, and an auxiliary control panel is used to point the camera at a predetermined oblique aiming angle.

Overlap 24% to 85%.

Cycle Rate One Frame per sec minimum.

Capacity 2000 ft, 5" wide (4800 frames) film.

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